

TRIANGLE ROAD SIGN WITH SOLAR  
POWER-DRIVEN FLASHING LIGHT MEANS

BACKGROUND AND SUMMARY OF THE INVENTION

The present invention relates to a triangle road sign, and more particularly to such a triangle road sign, which comprises a flashing light circuit assembly selectively driven by solar power, battery power, or alternating current power source to give a flashing warning signal.

A conventional triangle road sign 8, as shown in Figure 1, is generally comprised of a left frame bar 81, a right frame bar 82, a bottom frame bar 83, a stand 84, and reflectors 811, 821 and 831 respectively covered on the frame bars 81, 82 and 83. This structure of triangle road sign 8 is less effective because it can only give a static warning signal.

It is one object of the present invention to provide a triangle road sign, which is folding collapsible. It is another object of the present invention to provide a triangle road sign, which actively gives a warning signal. It is still another object of the present invention to provide a triangle road sign, which selectively uses solar power, battery power, or solar power source to drive flashing light circuit means to give a flashing warning signal. According to one aspect of the present invention, the triangle road sign is comprised of a folding

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collapsible triangle rack formed of a bottom rack, a left frame bar and a right frame bar, mounting means for securing the triangle rack to the inside of a car, flashing light circuit means mounted on the triangle 5 rack and controlled to give a flashing warning signal, and solar power circuit means that converts solar energy into electricity for the flashing light circuit means. According to another aspect of the present invention, battery power supply and alternating current 10 power adapter are provided and selectively controlled to provide the necessary working voltage to the flashing light circuit means. In an alternate form of the present invention, the mounting means for securing the triangle rack to the inside of a car is eliminated, 15 and a folding collapsible stand is provided to support the triangle rack on the road.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an elevational view of a triangle road sign according to the prior art.

20 Figure 2 is an exploded view of a triangle road sign according to the present invention (the top mounting device and the connecting members excluded).

Figure 3 is an assembly view of Figure 2, showing the left frame bar and the right frame bar 25 respectively pivoted to the bottom rack and extended out.

Figure 4 is a plain view showing the assembly

of Figure 3 installed in a part inside a car.

Figure 5 shows the triangle road sign set in the operative position in a car.

Figure 6 is a front side view of the triangle  
5 road sign after removal of the top mounting device and  
the connecting members.

Figure 7 is a rear side view of Figure 6.

Figure 8 illustrates the triangle road sign  
installed in the car near the rear window according to  
10 the present invention.

Figure 9 is an elevational view of an  
alternate form of the triangle road sign according to  
the present invention.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

15 Referring to Figures from 4 through 8, a  
triangle road sign in accordance with the present  
invention is generally comprised of a bottom mounting  
plate 1, a bottom rack 2, a left frame bar 3, a right  
frame bar 4, a top mounting device 5, and two  
20 connecting members 7.

The bottom mounting plate 1 has one side edge  
11 hinged to the bottom rack 2, and a bottom side wall  
12 fixedly fastened to a part 61 inside a car 6 near  
the rear window by adhesive or fastening members (see



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Figure 8 ). The bottom rack 2 comprises a transparent rack shell 20 hinged to the bottom mounting plate 1, a solar collector panel 24 mounted on a front side of the transparent rack shell 20, a signal light 25 mounted in a back side of the transparent rack shell 20 (see Figures 7 and 8), a control switch 27 mounted on the transparent rack shell 20, a flashing circuit (not shown) installed in the transparent rack shell 20 and controlled by the control switch 27 to flash the signal light 25, a solar battery circuit (not shown) installed in the transparent rack shell 20 and connected between the flashing circuit and the solar collector panel 24 through the control switch 27 to convert solar energy collected from the solar connector panel 24 into electricity and to store the electricity thus obtained for the flashing circuit and the signal light 25, an indicator light 29, which indicated battery charging status of the solar battery circuit, a rechargeable battery (not shown) installed in the transparent rack shell 20 and controlled by the control switch 27 to provide the necessary working voltage to the flashing circuit and the signal light 25, an alternating current adapter 28 installed in the transparent rack shell 20 for receiving external alternating current power supply to charge the rechargeable battery, and a battery box 26 installed in the transparent rack shell 20 and controlled by the control switch 27 to provide the necessary working voltage to the flashing circuit and the signal light 25. The transparent rack shell 20 comprises two coupling notches 221 and 231 at two distal ends thereof for receiving the left frame bar 3 and the right frame bar 4. The left frame bar 3 comprises a transparent body 30, a coupling rod 31

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extended from one end of the transparent body 30 and pivotally secured to one coupling notch 221 at the transparent rack shell 20 of the bottom rack 2 by a pivot 201, a signal light 32 installed in the back side 5 of the transparent body 30 and controlled by the control switch 27 to flash, a raised portion 34 raised from one end of the transparent body 30 remote from the coupling rod 31, and a locating ring 33 disposed near one end of the transparent body 30 adjacent to the raised portion 10 34 for the mounting of one connecting member 7. The right frame bar 4 comprises a transparent body 40, a coupling rod 41 extended from one end of the transparent body 40 and pivotally secured to one coupling notch 231 at the transparent rack shell 20 of 15 the bottom rack 2 by a pivot 202, a signal light 42 installed in the back side of the transparent body 40 and controlled by the control switch 27 to flash, a recessed portion 44 formed on one end of the transparent body 40 remote from the coupling rod 41 for 20 engagement with the raised portion 34 at the transparent body 30 of the left frame bar 33, and a locating ring 43 disposed near one end of the transparent body 40 adjacent to the recessed portion 44 for the mounting of one connecting member 7. The top 25 mounting device 5 comprises a top mounting plate 51 fastened to the ceiling of the car 6 by adhesive or fastening means, and a bottom coupling loop 52 suspended from the top mounting plate 51 to hold the connecting members 7. The connecting members 7 are 30 elastic members, each having one end terminating in a first hook 71 hooked on the bottom coupling loop 52 of the top mounting device 5 and a bottom end terminating in a second hook 72 hooked on the locating ring 33 and

43 at the left frame bar 3 or right frame bar 4.

When sunlight is available, the triangle road sign is put under the sun, enabling the solar collector panel 24 to collect the radiating energy of the sun for  
5 converting into electricity. When not in use, the bottom mounting plate 1 and the bottom rack 2 are turned toward each other and closely attached together to minimize space occupation. When in use, the left frame bar 3 and the right frame bar 4 are turned  
10 upwards from the bottom rack 2 toward each other to force the recessed portion 44 at the transparent body 40 of the right frame bar 41 into engagement with the raised portion 34 at the transparent body 40 of the right frame bar 41 into engagement with the raised  
15 portion 34 at the transparent body 30 of the left frame bar 3, and then connecting members 7 and the top mounting device 5 are fastened to the frame bars 3 and 4, and then the bottom mounting plate 1 and the top mounting devide 5 are fastened to the inside of the car  
20 6 to secure the triangle road sign in position, keeping the signal lights 25, 32 adn 42 facing the rear window of the car 6. By menas of operating the control switch 27, the signal lights 25, 32 and 42 are driven to give a flashing warning signal. The signal lights 25, 32 and  
25 42 can be any of a variety of light emitting elements, for example, light emitting diodes.

Figure 9 shows an alternate form of the triangle road sign. This alterante form eliminates the aforesaid bottom mounting plate 1, top mounting device  
30 5 and connecting members 7. Further, the bottom rack 2 of this alternate form is mounted with a folding

collapsible stand formed of two foot members 203 and 204.

It is to be understood that the drawings are designed for purposes of illustration only, and are not intended for use as a definition of the limits and scope of the invention disclosed.

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